

**From:** [andrew.s.barren@gm.com](mailto:andrew.s.barren@gm.com)  
**To:** [Gregory Orehowsky/DC/USEPA/US@EPA](mailto:Gregory.Orehowsky/DC/USEPA/US@EPA)  
**Cc:** [Jason Gumbs/DC/USEPA/US@EPA](mailto:Jason.Gumbs/DC/USEPA/US@EPA); [randall.c.harvey@gm.com](mailto:randall.c.harvey@gm.com); [rob.sutschek@gm.com](mailto:rob.sutschek@gm.com)  
**Subject:** Re: Summary of GM Durability Discussion - Feb 12, 2008  
**Date:** 02/25/2009 06:14 PM  
**Attachments:** [DF Drive Schedule.xls](#)

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Greg, our development group is OK with your changes. They may need to do some very minor blending of the merged schedule provided (again, very minor).

Please let me know if you agree we can use this new HD diesel schedule as a common schedule for;

- Durability (@50% of useful life)
- Regeneration frequency testing (UAF)
- Restricted testing zone (RTZ exclusion area)

Thanks.

Andy Barren  
General Motors

**Orehowsky.Gregory@epamail.epa.gov**

02/24/2009 04:08 PM

To [andrew.s.barren@gm.com](mailto:andrew.s.barren@gm.com)

cc [Gumbs.Jason@epamail.epa.gov](mailto:Gumbs.Jason@epamail.epa.gov)

Subject Re: Summary of GM Durability Discussion - Feb 12, 2008

Andy:

- I had 2 minor concerns about your cycle
1. Very short periods of idle
  2. Continuous highway operation after about 2600 seconds

The attached spreadsheet has the original cycle sent to me plus a modified one. In the modified spread sheet I have proposed a solution for the minor concerns above.

1. I added about 3 minutes of idle to the start.
2. At 5411 seconds into the original cycle, I bring the engine back to idle to break up the highway segment. This done using data from second 1665-1996 of the original cycle. I then added about another 100 seconds of idle then continued with the original cycle.

If you have concerns about the cycle as presented let me know. They may be other ways to arrange the data to break up the long stretch of highway driving.

(See attached file: [DF Drive Schedule.xls](#))  
Greg Orehowsky  
Compliance and Innovative Strategies Division  
Office of Transportation and Air Quality  
Phone: 202-343-9292  
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**From:** [andrew.s.barren@gm.com](mailto:andrew.s.barren@gm.com)

**To:** [Gregory Orehowsky/DC/USEPA/US@EPA](mailto:Gregory.Orehowsky/DC/USEPA/US@EPA)

**Date:** 02/24/2009 01:42 PM

Subject: Re: Summary of GM Durability Discussion - Feb 12, 2008

Thanks! Appreciate the feedback.

Andy

Orehowsky.Gregor  
y@epamail.epa.gov  
v

02/24/2009 01:39  
PM

andrew.s.barren@gm.com To  
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steve.bollinger@gm.com, william.w.watson@gm.com  
Subject  
Re: Summary of GM Durability Discussion - Feb  
12, 2008

Got your voicemail. Will get back to you today.

Greg Orehowsky  
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Office of Transportation and Air Quality  
Phone: 202-343-9292  
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From: andrew.s.barren@gm.com

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Date: 02/12/2009 04:22 PM

Subject: Summary of GM Durability Discussion - Feb 12, 2008

Khesha and Greg,

Below is a summary of the discussion we just had on GM's proposed 2011 diesel engine durability schedule.

Agreements:

- 1) GM can run durability and generate DF's using Part 86 protocol (not required to use Part 1065) for MY11 certification
- 2) GM needs to use Part 1065 for the certification engine/data for MY11 certification
- 3) GM no longer needs to certify a "dummy" late MY09 engine family to carry over into MY11. This was our original strategy assuming we needed to be Part 1065 compliant for MY10/11 durability. This is no longer the case (per item 1 above).
- 4) GM will do emission tests on the proposed durability schedule at the 5k, 30k and 60k points (0% / 25% / 50% of useful life)

GM's request:

- Consider the proposed dyno schedule for diesel durability (DF determination), regeneration frequency interval (UAF) and RTZ testing (NTE exclusion area)
- Consider approving that the proposed durability schedule needs to run to 50% of useful life, and the DF's would be extrapolated to full useful life

Follow-up: GM

- i) GM will send Greg Orehowsky the raw trace of the proposed durability schedule (done prior to this message)

ii) GM will revise the presentation provided to reflect our new certification strategy (per item 1 and 3 above)

Follow-up: EPA

- GM is asking EPA to review our proposal and respond as quickly as possible -GM has resources already engaged and ready to execute

GM feels the proposed schedule truly represents customer usage, and is actually more severe than the original SRC schedule.

Again, thank you for your time and consideration.

Andy Barren  
General Motors